

IN THE CLAIMS

What is claimed is:

- 1 **1.** A circuit that selects between at least two power supplies, comprising:
2 an input receiver coupled to receive an input signal and a drive
3 supply that generates a receiver output signal;
4 a supply comparator having inputs coupled to the at least two
5 power supplies that generates at least one select signal;
6 a select circuit coupled to the at least two power supplies and the
7 drive supply; and
8 a latch coupled to the at least one select signal and to the select
9 circuit.
- 1 **2.** The circuit of claim 1, wherein:
2 the input receiver further includes a driver circuit that receives the
3 input signal and generates an internal input signal, the driver circuit
4 including at least a first driver transistor having a source coupled to the
5 drive supply and a gate coupled to the input signal.
- 1 **3.** The circuit of claim 2, wherein:
2 the driver circuit comprises a complementary-metal-oxide-
3 semiconductor (CMOS) type driver.

1 **4.** The circuit of claim 2, wherein:

2 the input receiver further includes a first disable device that isolates
3 the driver circuit from at least one power supply in response to an enable
4 signal.

1 **5.** The circuit of claim 2, wherein:

2 the input receiver further includes a second disable device that
3 couples an output of the driver circuit to the driver supply in response to
4 an enable signal.

1 **6.** The circuit of claim 1, wherein:

2 the select circuit comprises a multiplexer having inputs coupled to
3 the at least two power supplies that is controlled according to an output of
4 the latch.

1 **7.** The circuit of claim 1, wherein:

2 the latch is enabled in response to a power up signal.

1 **8.** A method of controlling a power supply path to an input receiver, comprising the
2 steps of:

3 comparing at least two power supply voltages to one another;

4 setting a latch to indicate one of the at least two power supplies as

5 a selected supply according to said comparison; and

6 providing the selected supply to the input receiver according to the
7 setting of the latch.

1 **9.** The method of claim 8, wherein:

2 the step of setting the latch occurs substantially during a power-up
3 of an integrated circuit containing the input receiver circuit.

1 **10.** The method of claim 8, wherein:

2 the step of setting the latch includes setting the latch to indicate the
3 power supply having the lowest magnitude voltage.

1 **11.** The method of claim 8, further including:

2 level shifting an output from the input receiver to generate an output
3 signal that varies between predetermined logic levels regardless of which
4 at least one power supply is selected.

1 **12.** An input receiver circuit, comprising:

2 a comparator circuit that generates a select signal in response to a
3 comparison between at least two power supply voltages;

4 a select circuit that couples one of the at least one power supply
5 voltages to a drive node according to the select signal; and

6 a drive circuit that drives an internal input signal between the
7 potential of the drive node and another predetermined potential in

8 response to an input signal.

1 **13.** The input receiver circuit of claim 12, wherein:

2 the comparator circuit includes a comparator having inputs coupled
3 to the at least two power supplies and an output coupled to a passgate
4 that is enabled in response to a power-up signal having a first value.

1 **14.** The input receiver circuit of claim 13, wherein:

2 the comparator circuit can further include a latch having an input
3 coupled to an output of the passgate, and a latch output that provides the
4 select signal, the latch being enabled in response to the power-up signal
5 having a second value.

1 **15.** The input receiver circuit of claim 12, wherein:

2 the select circuit comprises a first supply transistor having a source-
3 drain path coupled between a first supply voltage and the drive node and
4 a second supply transistor having a source-drain path coupled between a
5 second supply voltage and the drive node.

1 **16.** The input receiver circuit of claim 12, wherein:

2 the drive circuit includes a complementary-metal-oxide-
3 semiconductor (CMOS) type driver having an input coupled to receive the
4 input signal and a driver output node that provides the internal input

5 signal.

1 **17.** The input receiver circuit of claim 16, wherein:

2 a drive circuit further includes

3 a first enable device coupled between the CMOS type driver
4 and a power supply that provides a low impedance path when an
5 enable signal has a first value, and

6 a second enable device coupled between the drive node and
7 the driver output node that provides a low impedance path when
8 the enable signal has a second value.

1 **18.** The input receiver circuit of claim 12, further including:

2 a level shift circuit that receives the internal input signal, the level
3 shift circuit including

4 a pull-up leg that drives an output node to one of the at least
5 two power supply voltages when the internal input signal has a first
6 value, and

7 a pull-down leg that drives the output node to a different
8 power supply voltage when the internal input signal has a second
9 value, the different power supply voltage being different from any of
10 the at least two power supply voltages.